

ABSTRACT OF THE DISCLOSURE

A catalyst component for addition polymerization

5 containing (A) a compound containing an atom of the Group II to the Group XII or Lanthanide series in which the lowest energy level of unoccupied molecular orbital having the valence p-type atomic orbital of the atom of the Group II to the Group XII or Lanthanide series as

10 a main component, wherein the coefficient represented by a linear combination, is 0.4 or more) is calculated to be 0.008 atomic unit (Hartree) or less by the calculation of density functional method (B3LYP/3-21G level), a catalyst for addition polymerization

15 containing the same, and a process for producing an addition polymer with the catalyst.